

## **REMARKS**

This paper is presented in response to the Office Action. By this paper, claims 1 and 20 are amended. Claims 5, 13, 14, 17, and 18 were canceled in previous papers. Claims 1-4, 6-12, 15, 16, and 19-40 are now pending in view of the aforementioned new claims.

Reconsideration of the application is respectfully requested in view of the aforementioned amendments and the following remarks. For the convenience and reference of the Examiner, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

### **I. General Considerations**

Applicant notes that the remarks and amendments presented herein have been made merely to clarify the claimed embodiments from elements purported by the Examiner to be taught by the cited references. Such remarks, or a lack of remarks, and amendments are not intended to constitute, and should not be construed as, an acquiescence, on the part of the Applicant: as to the purported teachings or prior art status of the cited references; as to the characterization of the cited references advanced by the Examiner; or as to any other assertions, allegations or characterizations made by the Examiner at any time in this case. Applicant reserves the right to challenge the purported teaching and prior art status of the cited references at any appropriate time.

In addition, the remarks herein do not constitute, nor are they intended to be, an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed herein are presented solely by way of example. Consistent with the foregoing, the discussion herein is not intended, and should not be construed, to prejudice or foreclose contemporaneous or future consideration, by the Applicant, of additional or alternative distinctions between the claims of the present application and any references cited by the Examiner, and/or the merits of additional or alternative arguments.

### **II. Rejection of Claims 1, 2, 4, 6, 8-12, 15, 16, 19, 20, 23-27, 33, 34 and 40 under 35 U.S.C. § 102**

Applicant respectfully notes that a claim is anticipated under 35 U.S.C. § 102(a), (b), or (c) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Further, the identical invention must be shown in as complete detail as is contained in the claim. Finally, the elements must be arranged as required by the claim. *MPEP § 2131*.

The Examiner has rejected claims 1, 2, 4, 6, 8-12, 15, 16, 19, 20, 23-27, 33, 34 and 40 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,819,260 to Haberrecker ("*Haberrecker*"). Applicant respectfully disagrees.

**a. Claims 1, 2, 4, 6, 8, 9 and 33**

By this paper, Applicant has amended independent claim 1 to recite in part "...an emitter attached to the emitter block and configured to generate electrons of an electron beam, at least a portion of the emitter being positioned within the emitter block..." Support for this amendment to claim 1 can be found, for example, at least at Figure 2 of the application. In contrast, the Examiner has not established that *Haberrecker*, either alone or in combination with any other reference, teaches or suggests the aforementioned limitations in combination with the other limitations of claim 1.

In light of the foregoing, Applicant respectfully submits that the Examiner has not established that *Haberrecker* anticipates claim 1, at least because the Examiner has not established that each and every element as set forth in claim 1 is found in *Haberrecker*, because the Examiner has not established that the identical invention is shown in *Haberrecker* in as complete detail as is contained in amended claim 1, and because the Examiner has not shown that *Haberrecker* discloses the elements of claim 1 arranged as required by that claim.

Applicant thus respectfully submits that the rejection of claim 1, as well as the rejection of corresponding dependent claims 2, 4, 6, 8, 9 and 33, should be withdrawn.

**b. Claims 10-12, 15, 16, 19 and 40**

In the rejection of independent claims 10 and 40, the examiner asserts that *Haberrecker* teaches "a magnetic (capable of being magnetized) emitter block (3)." However, this characterization contradicts statements made elsewhere in the Office Action by the Examiner and, moreover, the aforementioned characterization is inconsistent with the disclosure of *Haberrecker*.

In particular, the Examiner has conceded that *Haberrecker* discloses that the "emitter block 3" is non-magnetic, stating "With respect to claim 4, *Haberrecker* teaches that the emitter block is substantially non-magnetic (column 4, lines 19-21)." *Office Action at 3. Emphasis added.* Thus, the characterization of *Haberrecker* advanced by the Examiner in connection with the rejection of claims 10 and 40, among others, plainly contradicts the characterization of *Haberrecker* advanced by the Examiner in connection with the rejection of claim 1.

Moreover, it is clear in any event that the characterization of *Haberrecker* advanced by the Examiner in connection with the rejection of claims 10 and 40 is, at best, inconsistent with the disclosure of *Haberrecker*. For example, and as conceded by the Examiner, *Haberrecker* discloses that "The magnetic field generated by the coil 32 does not influence the cathode head 5 because this consists of non-magnetic material, such as Remanit 4550." *Col. 4, lines 19-21. Emphasis added.* As to the "Remanit 4550," *Haberrecker* goes on to explain that "...a suitable material for the cathode head in the claimed subject matter is anti-magnetic steel known as Remanit 4550." *Col. 2, lines 56-57. Emphasis*

added. Thus, the characterization of the “emitter block 3” advanced by the Examiner in connection with the rejection of claims 10 and 40 is plainly contrary to the disclosure of *Haberrecker*.

In light of the foregoing, Applicant respectfully submits that the Examiner has not established that *Haberrecker* anticipates either of claims 10 or 40, at least because the Examiner has not established that each and every element as set forth in claims 10 and 40 is found in *Haberrecker*, because the Examiner has not established that the identical invention is shown in *Haberrecker* in as complete detail as is contained in claims 10 and 40, and because the Examiner has not shown that *Haberrecker* discloses the elements of claims 10 and 40 arranged as required by those claims.

Applicant thus respectfully submits that the rejection of claims 10 and 40, as well as the rejection of corresponding dependent claims 11, 12, 15, 16 and 19, should be withdrawn.

**c. Claims 20, 23-27 and 34**

By this paper, Applicant has amended independent claim 20 to recite in part, “...a cathode head comprising the following elements, each of which is substantially disposed within the vacuum enclosure: an emitter block; an emitter attached to the emitter block and configured to emit electrons of an electron beam that defines a focal spot on the target surface of the anode; and at least one magnetic element that defines an opening within which a portion of the emitter is positioned.” Support for this amendment can be found in the application at Figure 1, for example.

In contrast, the Examiner has not established that *Haberrecker* discloses, for example, “at least one magnetic element” that is “substantially disposed within the vacuum enclosure” as amended claim 20 requires.

In light of the foregoing, Applicant respectfully submits that the Examiner has not established that *Haberrecker* anticipates claim 20, at least because the Examiner has not established that each and every element as set forth in claim 20 is found in *Haberrecker*, because the Examiner has not established that the identical invention is shown in *Haberrecker* in as complete detail as is contained in amended claim 20, and because the Examiner has not shown that *Haberrecker* discloses the elements of claim 20 arranged as required by that claim.

Applicant thus respectfully submits that the rejection of claim 20, as well as the anticipation rejection of corresponding dependent claims 23-27 and 34, should be withdrawn.

**III. Rejection of Claims 3, 7, 21, 22 and 28 under 35 U.S.C. § 103**

Applicant respectfully notes at the outset that in order to establish a *prima facie* case of obviousness, it is the burden of the Examiner to demonstrate that three criteria are met: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art, to modify the reference or to combine reference teachings; second, there must be a reasonable expectation of success; and third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP* § 2143.

The Examiner has rejected claims 3, 22 and 28 under 35 U.S.C. § 103(a) as being unpatentable over *Haberrecker*, and the Examiner has rejected claims 7 and 21 under 35 U.S.C. § 103(a) as being unpatentable over *Haberrecker* in view of U.S. Patent No. 6,055,294 to Foerst et al. ("*Foerst*"). Applicant respectfully disagrees.

**a. claims 3 and 7**

Claims 3 and 7 depend from claim 1, which, as noted previously, has been amended herein. By virtue of their dependence from independent claim 1, dependent claims 3 and 7 each require "...an emitter attached to the emitter block and configured to generate electrons of an electron beam, at least a portion of the emitter being positioned within the emitter block..." As noted above however, the Examiner has not established that *Haberrecker* discloses these limitations, nor has the Examiner established that *Foerst* is adequate to remedy this shortcoming of *Haberrecker*.

Accordingly, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness with respect to claims 3 and 7, at least because the Examiner has not established that the references, when combined in the purportedly obvious fashion, teach or suggest all the limitations of the rejected claims. Applicant thus respectfully submits that the rejection of claims 3 and 7 should accordingly be withdrawn.

**b. claims 21, 22 and 28**

Claims 21, 22 and 28 depend from claim 20. By virtue of their dependence from independent claim 20, dependent claims 21, 22 and 28 each require "...a cathode head comprising the following elements, each of which is substantially disposed within the vacuum enclosure: an emitter block; an emitter attached to the emitter block and configured to emit electrons of an electron beam that defines a focal spot on the target surface of the anode; and at least one magnetic element that defines an opening within which a portion of the emitter is positioned." As discussed above however, the Examiner has not established that *Haberrecker* discloses these limitations, nor has the Examiner established that *Foerst* is adequate to remedy this shortcoming of *Haberrecker*.

Accordingly, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness with respect to claims 21, 22 and 28, at least because the Examiner has not established that the references, when combined in the purportedly obvious fashion, teach or suggest all the limitations of the rejected claims. Applicant thus respectfully submits that the rejection of claims 21, 22 and 28 should accordingly be withdrawn.

#### IV. Allowable Subject Matter

Applicant acknowledges with thanks the indication of the Examiner that claims 29-32 and 35-39 are allowed, and Applicant also wishes to thank the Examiner for the careful review of those claims.<sup>1</sup>

Applicant submits the following comments concerning the Examiner's statements of reasons for the indication of allowable subject matter in the Office Action. In general, Applicant agrees with the Examiner that the inventions to which claims 29-32 and 35-39 are respectively directed are patentable over the cited references, but respectfully disagrees with the Examiner's statement of reasons for allowance as set forth in the Office Action.

Particularly, Applicant submits that it is improper to characterize a single limitation, or subset of limitations, as constituting the basis for allowance of a claim. Rather, the patentability of a claim is properly determined with reference to the claim as a whole. Accordingly, Applicant does not concede that the reasons for allowable subject matter given by the Examiner are the only reasons that make, or would make, the claim allowable and Applicant does not make any admission or concession concerning the Examiner's statements in the Office Action concerning the allowability of claims 29-32 and 35-39 in view of the cited references.

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<sup>1</sup> Although the Examiner stated that "claims 29-39 are allowed" in the body of the Office Action, claims 33 and 34 were rejected earlier in the Office Action. Applicant therefore assumes that the Examiner meant to exclude claims 33 and 34 from the list of allowed claims. If this assumption is incorrect, please advise accordingly.

**CONCLUSION**

In view of the remarks submitted herein, Applicant respectfully submits that each of the pending claims 1-4, 6-12, 15, 16, and 19-40 is in condition for allowance. Therefore, reconsideration of the rejections is requested and allowance of those claims is respectfully solicited. In the event that the Examiner finds any remaining impediment to a prompt allowance of this application that could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate the same with the undersigned attorney.

Dated this 5th day of March, 2007.

Respectfully submitted,

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